CLAIMS:



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1. A method for use in a transmitter, the method comprising the steps of:

processing N program channels into M clusters of program channels, such that at least k programs channels are grouped in each cluster, where k > 1, M > 1, and $(M)(k) \le N$; and

transmitting a transmission signal representing the M clusters and including cluster synchronization information for each of the M clusters such that the cluster synchronization information for each cluster is identical.

- 2. The method of claim 1, wherein the identical cluster synchronization information is represented by a maximal length PN (pseudo-random number) sequence.
- 3. The method of claim 2 further comprising the step of using an eight-stage linear feedback shift register for generating the maximal length PN sequence prior to the transmitting step.
 - 4. A method for use in a receiver, the method comprising the steps of:

receiving a signal representing (a) M clusters of program channels, such that at least k programs channels are grouped in each cluster, where k > 1; M > I, and (b) cluster synchronization information for each cluster of the M clusters, wherein the cluster synchronization information for each cluster of the M clusters is identical; and

using the received cluster synchronization information for identifying individual ones of the M clusters of program channels.

- 5. The method of claim 4, wherein the identical cluster synchronization information is represented by a maximal length PN (pseudo-random number) sequence.
 - 6. The method of claim 4, wher in the using step includes the steps of:

correlating cluster synchronization information for each cluster for providing correlation data for each cluster; and

comparing the correlation data for each cluster for identifying the individual ones

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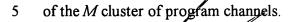
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- 7. The method of claim 6, wherein the comparing step compares phases of the correlation data for each cluster for identifying individual ones of the *M* clusters of program channels.
- 8. The method of claim 6 further comprising the step of combining the correlation data for each cluster for providing a cluster synchronization signal.
 - 9. A method for use in a receiver, the method comprising the steps of:
- demodulating a signal to provide a baseband signal representing a transmission frame comprising clusters of data and, for at least two of the clusters, further comprising cluster-specific synchronization data and wherein values of the cluster-specific synchronization data is the same for the at least two of the clusters; and

using the cluster specific synchronization data to identify individual ones of the clusters of data.

- 10. The method of claim 9, wherein the value of the cluster-specific synchronization data, which is the same for the at least two of the clusters, is represented by a maximal length PN (pseudo-random number) sequence.
 - 11. The method of claim 9, wherein the using step includes the steps of:

correlating the cluster-specific synchronization data for the at least two clusters for providing correlation data for the at least two clusters; and

comparing the correlation data for the at least two clusters for identifying the individual ones of the clusters of data.

- 12. The method of claim 11, wherein the comparing step compares phases of the correlation data for the at least two clusters for identifying individual ones of the clusters of data
- 13. The method of claim 11, further comprising the step of combining the correlation data for the at least two clasters for providing a cluster synchronization signal.

1	14. Transmitter appearation assumption
1	14. Transmitter apparatus comprising::
2	a transmission frame assembler for forming a signal representing M clusters of
3	program channels, such that at least k programs channels are grouped in each cluster,
4	where $k > 1$; $M > 1$, and further representing cluster synchronization information for each
5	of the M clusters such that the cluster synchronization information for each cluster is
6	identical; and
7	transmitting the signal.
1	15. The apparatus of claim 14, wherein the identical cluster synchronization
2	information is represented by a maximal length PN (pseudo-random number) sequence.
1	16. The apparatus of claim 15 further comprising an eight-stage linear feedback
2	shift register for generating the maximal length PN sequence.
1	17. A receiver comprising:
2	means for receiving a signal representing (a) M clusters of program channels, such
3	that at least k programs channels are grouped in each cluster, where $k > 1$; $M > 1$, and (b)
4	cluster synchronization information for each cluster of the M clusters, wherein the cluster
5	synchronization information for each cluster of the M clusters is identical; and
6	means for using the received cluster synchronization information for identifying
7	individual ones of the M clusters of program channels.
1	18. The receiver of claim 17, wherein the identical cluster synchronization
2	information is represented by a maximal length PN (pseudo-random number) sequence.
1	19. The receiver of claim 17, wherein the means for using further comprises:
2	means for correlating cluster synchronization information for each cluster for
3	providing correlation data for each cluster; and
4	means for comparing the correlation data for each cluster for identifying the
5	individual ones of the M cluster of program channels.
1	20. The receiver of claim 19, wherein the means for comparing compares phases



2 of the correlation data for each cluster for identifying individual ones of the M clusters of 3 program channels

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The receiver of claim 17 further comprising a means for combining the correlation data for each cluster for providing a cluster synchronization signal.

22. A receiver comprising:

a demodulator, responsive to a signal, that provides a baseband signal representing a transmission frame comprising clusters of data and, for at least two of the clusters, further comprising cluster-specific synchronization data and wherein values of the clusterspecific synchronization data is the same for the at least two of the clusters; and

a detector, responsive to the cluster specific synchronization data, for identifying individual ones of the clusters of data.

- The receiver of claim 22, wherein the value of the cluster-specific 23. synchronization data, which is the same for the at least two of the clusters, is represented by a maximal length PN (pseudo-random number) sequence.
- The receiver of claim 22 further comprising a plurality of correlators for correlating the cluster-specific synchronization data for the at least two clusters for providing correlation data for the at least two clusters; and wherein the detector compares the correlation data for the at least two clusters for identifying the individual ones of the clusters of data.
- The neceiver of claim 24, wherein the detector compares phases of the correlation data for the at least two clusters for identifying individual ones of the clusters of data!

